



Shiv Chhatrapati Shikshan Sanstha's
Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)
Department of Biotechnology
Structured Work Plan for Teaching
Academic Year 2020-21 (Term-II)

1. Details of Classes to be taught

Sr. No.	Class	Name of Asst. Prof.	Subject	Paper
1.	B.Voc. I Year	Mr. A. J. Wagmare	Food Processing Technology	Statistical Method Course Code: U-STM-207
2.	B.Voc. II Year			Business Mathematics Course Code: U-BUS-418
3.	B.Voc. III Year			Aptitude and Logical Reasoning-II Course Code: U-ALR-649

2. Summary of Lesson Plan Name of Teacher: Mr. A. J. Wagmare
Class: B.Voc. F.P.T. F. Y (SEM-I)

Sr. No.	Subject	Unit & Chapter to be Covered	Date	No. of Lectures	Academic Activities to be Organized	No. of Test/ Assignment with Topic & Date
1.	F. P. T	Unit-I: Elementary Statistic: Introduction, Classification of data, presentation of statistical data, values of variable and frequency, cumulative frequency distribution, diagrammatic presentation of statistical data, type of graphs, charts and diagrams, Histogram Bar chart, pie chart, Frequency polygon, OGIVE	14/10/2020 To 04/11/2020	03 04 02 02	Google Classroom, Online Group Discussion	
		Unit-II: Measure of Central Tendency Introduction, central tendency of data, mean, properties of arithmetic mean, Short cut method of calculating A.M. for discrete series, calculation of arithmetic mean for grouped frequency distribution, continuous series, calculation of arithmetic mean from grouped frequency distribution with open end class, Geometric mean, advantages and disadvantages of A.M., G.M., and H.M., Median, Mode. Quartiles, deciles and Percentiles	05/11/2020 To 05/12/2020	02 03 03	Google Classroom, Online Group Discussion	
		Unit-III: Measure of Dispersion Introduction, Dispersion, Range, Mean Deviation, Standard Deviation, Relative measure of dispersion, moments and measures of Skewness and Kurtosis: Introduction, moments, skewness, kurtosis.	08/12/2020 To 21/01/2021	03 04 04 05	Google Classroom, Online	

		Unit-IV: Correlation and Regression Introduction correlation, determination of correlation by two-way frequency table, scatter diagram, co-variance method or Karl Pearson's Method, Rank Method, concurrent deviation method, properties of correlation, coefficient, regression equation of X on Y, Regression coefficients, properties of linear regression.	25/01/2021 To 20/02/2021	01 06	Google Classroom Online Group Discussion	
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Name of Teacher: Mr. A. J. Waghmare

Class: B.Voc. F.P.T. S. Y (SEM-III)

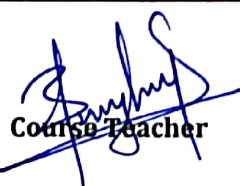
Sr. No.	Subject	Unit & Chapter to be Covered	Date	No. of Lectures	Academic Activities to be Organized	No. of Test/ Assignment with Topic & Date
1.	F. P. T	Unit-I: Fundamental Mathematics Introduction, Definition of set, Representation of set, -notation, Types of sets, Equality of sets, Subset of set, Union of sets, Intersection of sets, Disjoint sets, Universal set, Complement of set, Difference of sets, Venn diagram Determinants, Minors & Co-factors of the elements of the determinant, Properties of determinant, Application of determinants in Business problems.	06/07/2020 To 30/07/2020	02 02 06 02	Online class Seminar	Google classroom
		Unit-II: Probability Probability: Introduction, basic terminology, types of events, Conditional probability, Bayes theorem, Addition theorem, multiplication theorem. Principle mathematical induction, basics distribution: Binomial distribution, Bernoulli distribution, Normal distribution & Poisson distribution	01/08/2020 To 30/08/2020	04 03 07 03		
		Unit-III: Biostatistics Various types of data (Raw data, grouped data), Representation of data using frequency distribution diagram (Simple/ Multiple/ Subdivided bar diagram, Pie diagram), Graphs: Bar graphs, difference graph, line graph, Histogram, polygon, curve sampling methods. Measure of central tendency: Mean, Median, Mode. Measures of dispersion: Variance, Standard deviation, Coefficient of variance.	01/09/2020 To 30/09/2020	06 03 03	Guest Lecture	Google classroom
		Unit-IV: Computer Introduction of R-Software: Basics, why R & installation procedure, help, demonstration,	01/10/2020	06 04		

	examples, packages & libraries, command line, data editor & R studio. Basics of Calculation: Basics & R as a Calculator, built in functions and assignments, Functions & Matrices, Matrix Operations, Missing data & logical operators, conditional executions, loops, Sequences.	To 31/10/2020	05		
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Name of Teacher: Mr. A. J. Waghmare

Class: B.Voc. F.P.T. T.Y (SEM-V)

Sr. No.	Subject	Unit & Chapter to be Covered	Date	No. of Lectures	Academic Activities to be Organized	No. of Test/ Assignment with Topic & Date
1.	F. P. T	Unit-I: Numerical Ability Important Sequences: Arithmetic Sequences, Geometric Sequence. Probability: Approach of probability, The use of conjunction AND, The use of conjunction OR, Combination of AND, OR. Another approach of Probability (General), Important facts about probabilities. Permutations & Combinations. Mean. Median & Mode: Theory, Examples., Standard Deviation, Variance.	06/07/2020 To 30/07/2020	02 02 06 02	Classroom Group Discussion	
		Unit-II: Logical Reasoning Data Interpretation: Theory, Table, Bar Chart, Line graph, Histograms, Pie Charts. Observational Ability: Theory, to draw a Venn Diagram, Logical Puzzles: Theory, Problems. Observational Ability; Theory, draw a Venn diagram	01/08/2020 To 30/08/2020	04 03 07 03		
		Unit-III: Typical Problems Calendar Problem: The History, Theory: Odd Days, Leap Year, Ordinary Year, Counting of Odd Days, Tricks and Shortcuts for calculations, working rule for finding the day of a given date, Conditions for calendars of two different years to be same.	01/09/2020 To 30/09/2020	06 03 03		
		Unit-IV: Clock Problem Clock Problem: Theory, Important facts and shortcuts for quick calculation, some important types of clock problems. Moving Locomotive Problem, Series Formation: Theory, Number Sequence, Letter Sequence, Symbol Sequence.	01/10/2020 To 31/10/2020	06 04 05		


Course Teacher


Head
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PRINCIPAL
Rajarshi Shahu Mahavidyalaya, Latur
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स्थापना - १९७०

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Structured Work Plan for Teaching
Academic Year 2020-21 (Term-II)

1. Details of Classes to be taught

Sr. No.	Class	Name of Asst. Prof.	Subject	Paper
1.	B.Voc. I Year	Mr. A. J. Waghmare	Food Processing Technology	Mathematical Foundation Course Code: U-
2.	B.Voc. II Year			Aptitude & Logical Reasoning-I Course Code: U-
3.	B.Voc. III Year			Free Open-Source Software [FOSS] Course Code: U-
4.	B.Sc. B.T. I Year		Biotechnology	Biomathematics, Biostatistics & Computer Course Code: U-BBC-290

2. Summary of Lesson Plan

Name of Teacher: Mr. A. J. Waghmare

Class: B.Voc. F.P.T. F. Y (SEM-II)

Sr. No.	Subject	Unit & Chapter to be Covered	Date	No. of Lectures	Academic Activities to be Organized	No. of Test/ Assignment with Topic & Date
1.	F. P. T	Unit-I: Basic foundation: Set Theory: Definition, types of representation of sets, types of sets, operation on sets, difference set, complement of set, union of set, intersection of set, Venn diagram, cardinality and its properties.	23/02/2021 To 23/03/2021	03 04 04 02	Google Classroom, Online Group Discussion	
		Unit-II: Approach of Probability: Probability: Approach of probability questions, The use of conjunction AND, The use of conjunction OR, Combination of AND, OR. Another approach of Probability (General), Important facts about probabilities	25/03/2021 To 13/04/2021	02 03 03	Google Classroom,	
		Unit-III: Probability: Basic Probability: Concept of probability, sample space, types of events, factorial, permutation & combination, conditional	15/04/2021 To 11/05/2021	03 04 04	Google Classroom, Online	

		Unit-IV: Determinant & Matrices: Determinant: introduction value of determinant, properties of determinants, Application of determinant in Business problem Matrices: calculation, types of matrices, addition & Multiplication of matrices, Equality of matrices	12/05/2021 To 31/05/2021	01 06	Google Classroom Online Group Discussion	
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Name of Teacher: Mr. A. J. Waghmare

Class: B.Voc. F.P.T. S. Y (SEM-IV)

Sr. No.	Subject	Unit & Chapter to be Covered	Date	No. of Lectures	Academic Activities to be Organized	No. of Test/ Assignment with Topic & Date
1.	F. P. T	Unit-I: Numerical Ability: Theory, Different types of Numbers: Natural Numbers, Integers, Even Numbers, Odd Numbers, Prime Numbers: Test for Prime Number, Prime Factorization., Composite Number, Perfect Square., Test of Divisibility, GCD and LCD: Greatest Common Divisor (GCD or HCF), Method for finding the GCD & LCM of two or more numbers, Factorization Method., Least Common Multiple, Important Properties of GCD & LCM, BODMAS Rule, Modulus of Real Numbers.	23/02/2021 To 23/03/2021	02 02 06 02	Online class Seminar	Google classroom
		Unit-II: Daily Life Problems-I: Theory, Preliminaries, Quadratic Equation, Fractions, Law of Exponents, Last digit of a power. Some Important Sequences: Arithmetic Sequences, Geometric Sequence. Fundamental Principle of Counting, Probability: Approach of probability questions, The use of conjunction AND, The use of conjunction OR, Combination of AND, OR. Another approach of Probability (General), Important facts about probabilities. Permutations & Combinations.	25/03/2021 To 13/04/2021	04 03 07 03		
		Unit-III: Daily Life Problems-II Algebraic methods of solving a pair of Linear Equations: Substitution Method, Elimination Method. Age Problem, Average: Theory, Arithmetic Mean, Important facts about Arithmetic Mean, Geometric Mean. Median & Mode: Theory, Examples., Standard Deviation, Variance	15/04/2021 To 11/05/2021	06 03 03	Guest Lecture	Google classroom
		Unit-IV: Distances and Directions: Theory: Direction Sense test, Pythagoras Theorem, Trigonometric Ratios, Heights and Distances, Angle of measurement: Degree and radian measure	12/05/2021 To 31/05/2021	06 04 05		

Name of Teacher: Mr. A. J. Waghmare

Class: B.Voc. F.P.T. T.Y (SEM-VI)

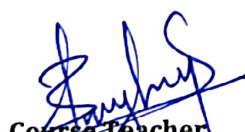
Sr. No.	Subject	Unit & Chapter to be Covered	Date	No. of Lectures	Academic Activities to be Organized	No. of Test/ Assignment with Topic & Date
1.	F. P. T	Unit-I: Components of Computer System: Central Processing Unit, Keyboard, mouse, Other Input devices & Output Devices, Computer Memory, connecting keyboard, mouse, monitor and printer to CPU, Word Processing Basics, Opening and closing Documents, Text Creation and manipulation, Formatting the Text, Table Manipulation, Creation of Presentation, Preparation of Slides, Presentation of Slides, Slide Show. Connectivity using the Web: Web Browsing Software, Search Engines, Basics of E-mail	23/02/2021 To 23/03/2021	02 02 06 02	Classroom Group Discussion	Google classroom
		Unit-II: Basic fundamentals, installation and use of software, data editing, use of R as a calculator, functions and assignments. Use of R as a calculator, functions and matrix operations, missing data and logical operators.	25/03/2021 To 13/04/2021	04 03 07 03		Google classroom
		Unit-III: Conditional executions and loops, data management with sequences. Data management with repeats, sorting, ordering, and lists.	15/04/2021 To 11/05/2021	06 03 03		Google classroom
		Unit-IV: Graphics and plots, statistical functions for central tendency, variation, skewness and kurtosis, handling of bivariate data through graphics, correlations, programming and illustration with examples.	12/05/2021 To 31/05/2021	06 04 05		Google classroom


Name of Teacher: Mr. A. J. Waghmare

Class: B. Sc. B.T. I Year (SEM-II)

Sr. No.	Subject	Unit & Chapter to be Covered	Date	No. of Lectures	Academic Activities to be Organized	No. of Test/ Assignment with Topic & Date
1	Biotechnology	Unit-I: Biomathematics Set Theory: Definition, types of representation of sets, types of sets, operation on sets, difference set, complement of set, union of set, intersection of set, cardinality and its properties. Basic Probability: Concept of probability, sample space, types of events, factorial, permutation & combination, conditional probability, addition theorem of probability.	12/03/21 To 31/03/21	15L		Google classroom

	Determinant: introduction, value of determinant, properties of determinants. Matrices: calculation, types of matrices, addition & Multiplication of matrices.				
	Unit-II: Biostatistics Basics Statistics: Introduction, classification of data, presentation of statistical data, presentation of statistical data, values of variable and frequency, cumulative frequency distribution, diagrammatic presentation of statistical data, type of graphs, charts and diagrams, Histogram Bar chart, pie chart, frequency polygon, OGIVE, quartiles, deciles and percentiles	01/04/21 To 25/04/21	14L		Google classroom
	Unit-III: Measures of central Tendency Measures of central Tendency: Introduction, mean, properties of arithmetic mean, Short cut method of calculating A.M for discrete series, Calculation of arithmetic mean for grouped frequency, Distribution: continuous series, calculation of arithmetic mean from grouped frequency distribution with open end class, geometric mean, Harmonic mean, advantages and disadvantages of A.M, G.M and H.M., Median, Mode and Correlation and Regression	26/04/21 To 15/05/21	10L		Google classroom
	Unit-IV: R Software R Software: Basic fundamentals, installation and use of software, data editing, use of R as a calculator, functions and assignments. Use of R as a calculator, functions and matrix operations, missing data and logical operators.	16/05/21 To 21/05/21	06L		Google classroom


Course Teacher


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